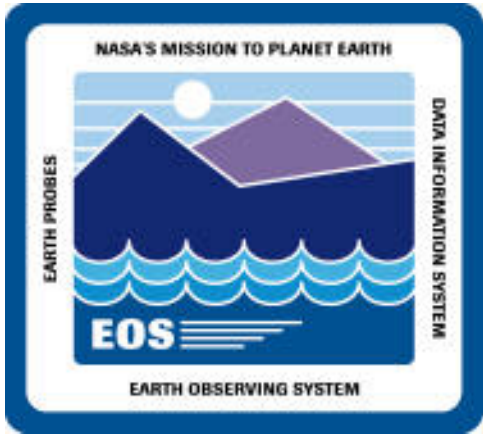

Coincident Search Scenario

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31 October 1995

Coincident Search

Overview

- **“Give me all the spatially coincident and time coincident within 24 hours MODIS sea ice extent data and ASTER level 1B data over the Ross Ice Shelf In Antarctica for March to June of 1999"**
- **Requires cross-site query**

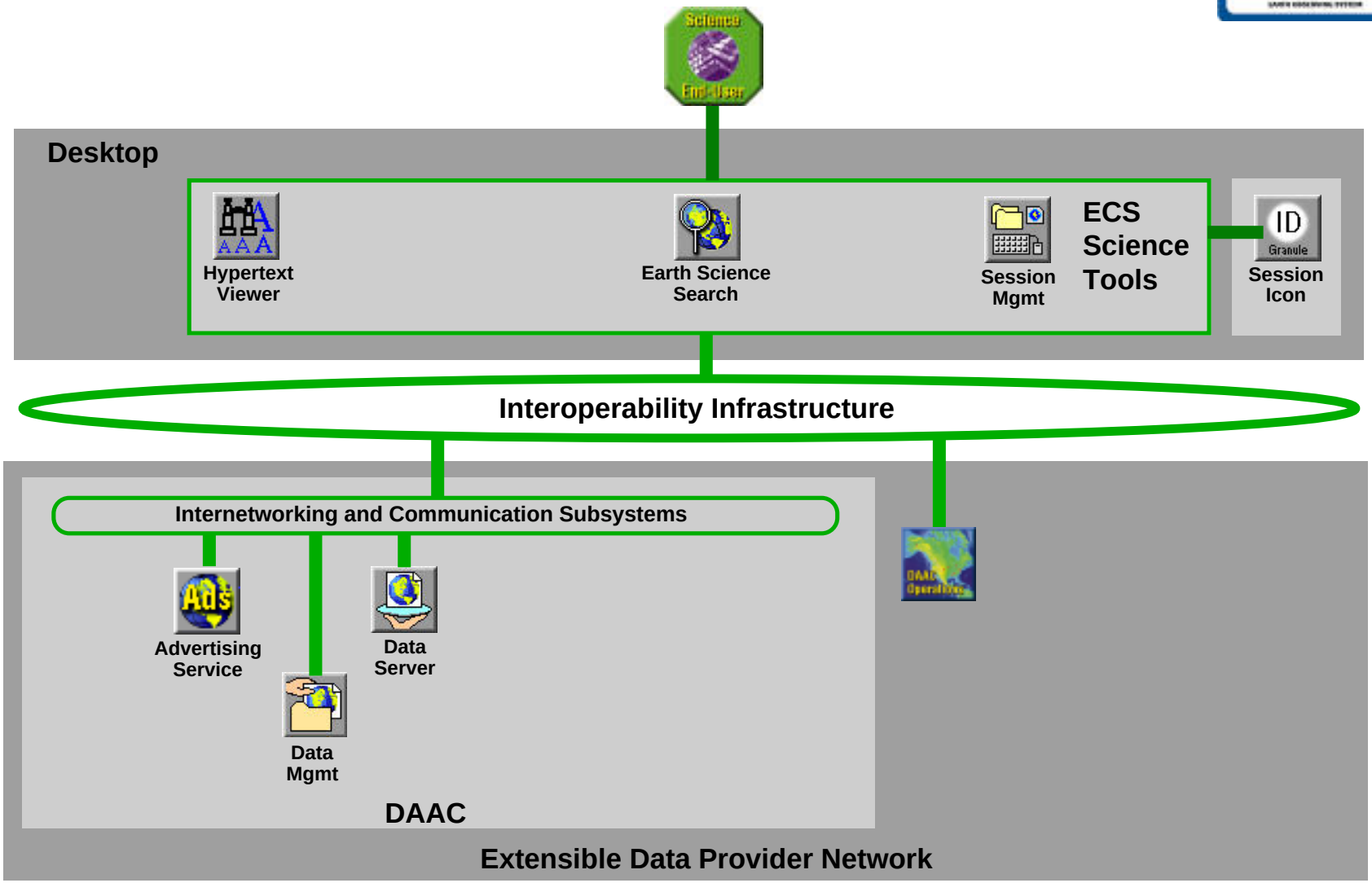
Assumptions

- **Requires only one Science Data Server at each site**
- **Science End User is authorized to execute the query**

Preconditions

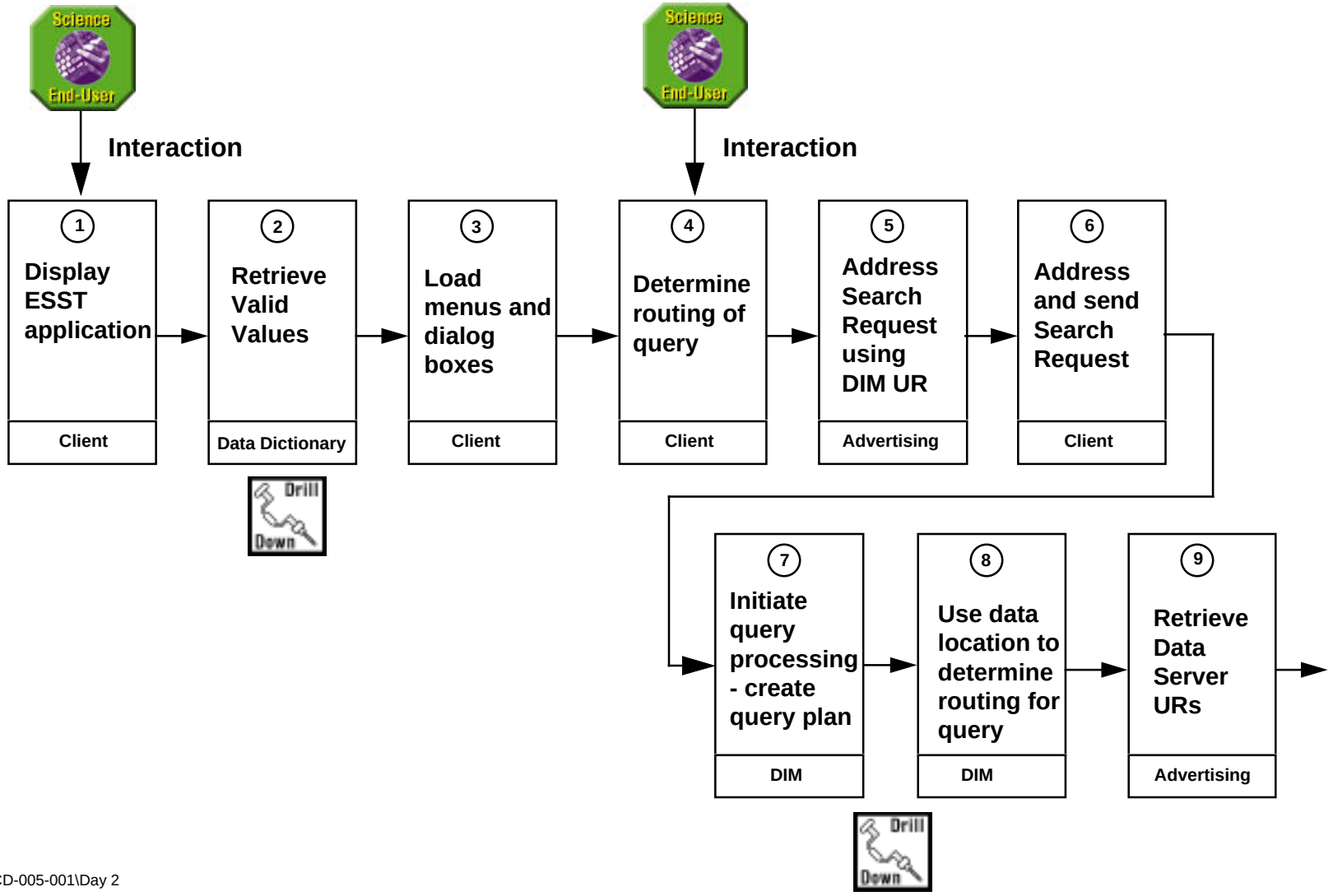
- **Science End User has registered with system**
- **Science End User has installed ECS Client on local workstation**
- **Relevant MODIS and ASTER data have been stored on Science Data Server**

Coincident Search Context



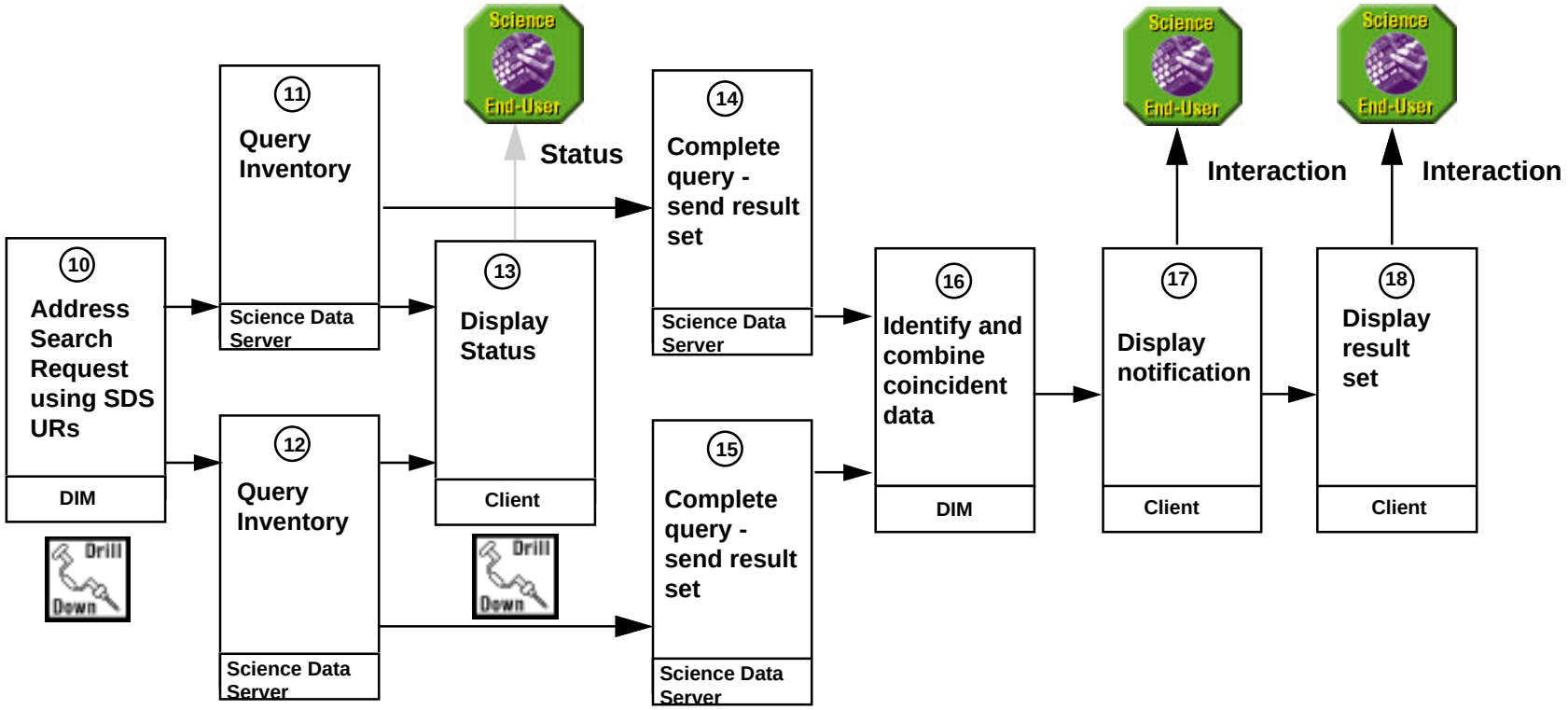
Coincident Search

Functional Flow

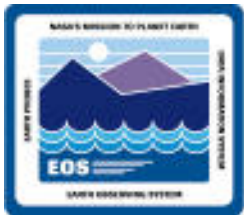


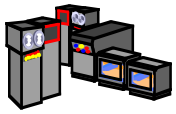
Coincident Search

Functional Flow



Coincident Search
Points of View





CLIENT receives initiation request from SCIENCE END USER

Science End User initiates ESST from Desktop

① ***CLIENT displays ESST application***

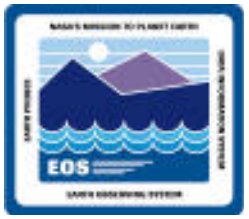
ESST sends DATA DICTIONARY query for valid values

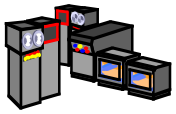
② ***DATA DICTIONARY retrieves VALID VALUES***

DATA DICTIONARY sends VALID VALUES to CLIENT

③ ***ESST uses valid values to load menus and dialog boxes***

Coincident Search
Points of View





ESST receives coincident query from SCIENCE END USER

User enters a coincident query into ESST

④ ***ESST uses valid values to determine routing for query***

ESST queries ADVERTISING SERVER for "address" (UR) of DIM

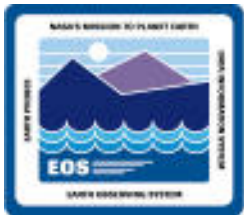
⑤ ***ADVERTISING SERVER receives query for DIM UR from ESST***

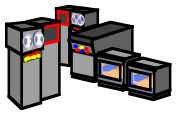
ADVERTISING SERVER sends DIM UR to ESST

⑥ ***ESST addresses the Search Request using DIM UR***

ESST sends SEARCH REQUEST to DIM

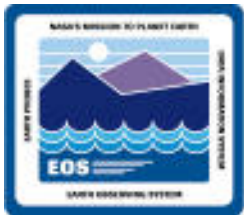
Coincident Search
Points of View

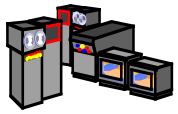




	DIM receives SEARCH REQUEST from ESST ⑦ ***DIM initiates processing of query - creates query plan.*** ⑧ ***DIM gets locations of requested data from Data Dictionary and uses them to determine routing of query.*** DIM sends QUERY for UR of Science Data Servers to ADVERTISING SERVER ⑨ ***ADVERTISING SERVER retrieves URs of Science Data Servers*** ADVERTISING SERVER sends URs of Science Data Servers to DIM		

Coincident Search
Points of View





⑩ ***DIM addresses the Search Request Components using returned URs***

DIM sends QUERY COMPONENT 1 to SCIENCE DATA SERVER 1

DIM sends QUERY COMPONENT 2 to SCIENCE DATA SERVER 2

⑪ ***SCIENCE DATA SERVER 1 queries inventory***

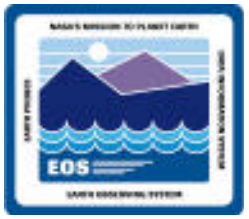
⑫ ***SCIENCE DATA SERVER 2 queries inventory***

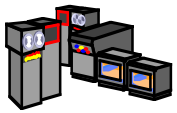
DIM monitors status of Science Data Server queries, supplies STATUS to ESST → **Science End User views STATUS**

⑬ ***ESST displays STATUS***

⑭ ***SCIENCE DATA SERVER 1 completes query, sends RESULT SET 1 to DIM***

Coincident Search
Points of View





	⑮ ***SCIENCE DATA SERVER 2 completes query, sends RESULT SET 2 to DIM***	
	DIM receives RESULT SETS from SCIENCE DATA SERVERs	
	⑯ ***DIM identifies coincident data and combines in a single result set***	
	DIM sends NOTIFICATION of completion to ESST	
	⑰ ***ESST displays Notification*** →	**Science End User views Notification**
	DIM sends RESULT SET to ESST	
	⑱ ***ESST displays Result Set*** →	**Science End User views Result Set**